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SOUTHEASTERN OKLAHOMA MEDICAL ASSOCIATION

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Durant

Fellow Members of the Southeastern Oklahoma Medical Association, Gentlemen:

My first recollection of the practice of medicine in the Choctaw Nation dates back to the year 1895. A moving picture of the scenery along the road of from then to now would be interesting and instructive: humerous and pathetic: gloomy and hopeful.

Those who have traveled along this road have seen flowers and trees; mountains difficult of ascent, with yawning chasms which seemed impassable, and with many deep caverns in which the monsters of ignorance, fanaticism and superstition hide from the light.

This road winds around the mountain and each mile of it is marked. Near some of the mile posts one can see in his imagination the bleached bones of the lambs who have been sacrificed at the altar of science and progress.

Along this road are thorny cactus plants, trees, some of which support poison ivy vines, and mistletoe. This road leads from places of very low altitude, where we find the marsh and the quick sand, to higher ground where the air is better, and always forward and upward.

Along the first twelve miles of this road we find many houses which herb doctors, almanac doctors, undergraduates, eclectics, homeopaths and many other paths, including the straight though (often narrow) allopath. At the lower end of this road, we find a multiplicity of practitioners with a multiplexity of theories. At one time, Lehigh had 6 or 8 doctors; Atoka, 8; Oconee, 2; Olney, 3; Tushka, 2, and although over 80 per cent of these are gone, I do not believe that I have noticed any appreciable increase in the death rate.

The road from then to now extends nearly back to the beginning of appendicitis, and her two sob sisters, peritonitis and goodnightis, for just a few years before this, we heard of her. She was the evolution product of locked bowels, cramp colic, peritonitis and that most detestable, unmentionable blasphemy — congestion. How many times have I been told, when making insurance examinations, that Aunt Sue died of congestion.

It was on mile one of this road where I first met appendicitis; she was having cold refreshments in the form of an ice bag around her, she was waiting for maturity, hopeful that she would develop at least into a nice juicy abscess, and not get gangrenous. At this time she was recognized by pain over McBurney's point, and she is still and will continue to be best known by her steady companion, pain, pain — with or without fever — with or without leukocytosis.

It was on this road that we used to find many of the old-fashioned homeopaths and eclectics, some of whom entered such schools solely because the regular school of medicine had much higher educational requirements for admission. As they traveled up this road many of them threw off the thin garments of homeopathy and eclecticism, used all that the regular used, and prayer for more power.

But these same homeopaths and eclectics taught us of the regular, but some times narrow path, some mighty good things. They were opposed to minerals, especially mercury, and agreed with Dr. Oliver W. Holmes, now dead, (I am sorry to inform this society) that if all the calomel in the world was thrown into the ocean it were better for mankind and worse for the fish.

These same homeopaths and eclectics were possibly responsible for the wonderful rediscovery of the marvelous properties of our great external and internal medicine, *aqua purae*, the use of which, religiously and frequently, is hereby endorsed. Pick up in any old-time drug store a bottle of echinacea and you will observe that it should be given as follows:

*Read before the Southeastern Oklahoma Medical Association, Durant, December 15, 1927.

Put 60 drops of same in a bucket of water and give a tablespoonful of this every 15 minutes, day and night. The echinacea bottle states that *echinacea* helps remove the broken down cells and products of katabolism, but I rather suspect that our old friend *aqua* is the more guilty of the two. And, nearly every homeopath and eclectic has hopped into the regular bandwagon.

On this road of from then to now, we pass along a row of miserable huts, closely chinked, with no evidence of a window anywhere. Above the doors of these should be written the words, "Abandon hope, all ye who enter here." In these are some dangerous reptiles, who cannot bear the light, their bellies are stuffed and they are comfortable. They want nothing—particularly light.

These monsters always agreed with every old woman's diagnosis and remedy. They permitted the old-fashioned woman to chew for her infant (thereby developing an immunity) and it certainly required some immunity to survive such an insult.

These monsters nursed and worried their victims by excessive and useless medication, and always had the alibi, "If I had been called a week ago, the patient would not have died." And, after death, he blamed it largely on the Deity, and sent flowers to the bereaved, which act gave him another opportunity to again impose on an innocent victim.

These monsters were finally forced over the precipice near mile post 12, but before the funeral dirge was played they made a determined stand and called for a meeting of the Choctaw-Chickasaw Medical Association, and I am told by one peered into that assembly, that, if seen now, the diagnosis would be *Bolsheviki*, and even a blind man could smell that diagnosis. Finally order came out of chaos and this heterogeneous multitude was thoroughly routed, and there fell of the treacherous stubborn, rebellious and ignorant ephraimites, on one day in 1907 (not forty and two thousand) but a goodly number of them.

The last one that I remember seeing was old Doc Skaggs. His son Ira's wife was sick and had a very peculiar ailment. This distinguished graduate of Green's diploma mill, from which he had a beautiful certificate, met me at the door and lisped, "she has septomania, she miscarried and Doctor T— and I curetted and washed her out, and she is out of her head and has high fever."

The delirious condition accounted for the mania and an Ivory soap per cent of his curettements were followed by sepsis.

I found that one of the children had died a few days previous from eating ground glass, the doctor reckoned. He was one of these fashioned quacks who avoided consultation, for he was always fearful of its possibilities. The Journal of the A. M. A. once described these anti-consultation doctors "as one who constituted judge, jury and frequently executioner." The patient mentioned had a typical clinical picture of typhoid fever. The child had died of hemorrhage, without medical assistance.

The road of from "'95" to now leads from the time that we used to give digitalis when the pulse rate reached 140. We started the old-fashioned unstandarized Tr. four days too late in pneumonia. There was only one exception to this rule—Kelly of Louisville. His slogan was, "give them a teaspoonful, and if that does not do, give them a tablespoonful."

The road from yesterday should lead from the pitiful, starved, delirious typhoid patient to the typhoid vaccine. When it does not it should lead to caloric feeding of anything light, such as ice cream, baked potatoes, etc. And, we seldom see it's acidosis now.

This road leads from the old idiotic Braxton-Hicks method of temporizing with placenta praevia; that hopeless method, by which I lost the best friend I ever had, (the one who went down into the valley of the shadow of death to receive my trembling soul gates of life) to the modern Caesaran operation.

This road leads from the quick-sands of cholera infantum to diagnosis of the causative factors in and the prevention of anhydremia; from the barren desert of ileocolitis to the oasis of lactic acid and protein milk; from the badly infected soil of rickets, that soil which is responsible for adenoids, tonsillitis, bronchitis, bronchiectasis, asthma and even tuberculosis, to sunlight, real and artificial, and to vitamins, which we know something about, but do not use in sufficient quantities to prevent appendicitis and other itises.

Too many of us have forgotten that place along this road where we found the turnip greens and whole wheat, the coarse food or roughness so essential in maintaining our digestive and nervous equilibrium.

Let us now look up this road: can we not see within its next five miles the hospital in every county seat?

Should we not find in it every case of confinement—that hideous nightmare of every general practitioner of medicine, that monster from which each general practitioner escapes with the shout, "I am free, I have broken the chains." How proud he is to say, "I am a surgeon and do not take confinement cases."

Then, and then only can he sit down to the banquet table with no absolute certainty of being called away, then only can he be sure that he will not have to spend the whole night listening to the cries of some 16-year-old primipara, 17 miles away from town, and six or seven from any highway. Then only will be he able to attend the out-of-town medical association, then only will he have time to carefully examine his office patient, and not have to hurriedly write them a prescription for a snap diagnosis, and hasten to his obstetrical patient.

In my opinion, the practice of obstetrics has conduced nor too hasty, incomplete examinations by men half asleep, and to the reduction of well trained men to the dead level of mediocrity, than any one branch of medicine or surgery.

And, the time is about here when the old-fashioned practitioner, not afraid of the cold night air or the slippery road, will cease to go through difficulties and dangers to operate on some emergency case. Soon he can go and sleep and live and learn with his patient near him in the hospital.

The hands of the clock of time never turned backward. Gabriel will soon blow his horn, sounding taps for all those not in county seats with hospitals and clinics. The patient will come to the doctor—not the doctor to the patient.

Mr. Ford said this about his new car: "It is a success because it has to be mathematically correct, a success because nothing else will do." So it is with the future of medicine in this district, the county seat hospital and clinic must come, for men who have spent thousands acquiring their diploma must draw less dividends on their investment than the average switchman, or auto mechanic. They can't afford to start in towns.

The practice of medicine in small towns is rapidly degenerating from one of the most noble, dignified professions to one of the most humiliating, exasperating—I am almost tempted to say, degrading callings known.

We are able to diagnose a few simple pathological conditions, but the patient has to go to the clinic to find out whether we knew or not. The surgeons and specialists' praises are continually upon the lips of the laity, but that poor old friend who crawled out of a warm bed to see them when they had to have help, and that soon, is now considered a failure. If he knew much, he would be in the city.

The modern methods of treating children, with its lactic acid milk, oranges, cod liver oil and artificial sunlight, will decrease the general practitioner of medicine's practice to a minimum. What infectious diseases he sees will be attenuated.

The tuberculosis sanitorium with its artificial pneumothorax, etc. will make it a crime to keep our patients at rest at home, and instead of locking the stable after the horse is stolen, measures will soon be taken to further get rid of potential tuberculosis by isolating the aged tuberculous grand parent, parent or relative who sit around by the fire in so many homes and expectorate at the fire place or stove, and usually not in them.

I am told by the T.B. specialists who ought to know, and do know, that the aged tuberculous often infects the child in the home. At adolescence, this child reaches a hill difficult of ascent; he has to grow and not use his resistance in combating T.B. infection. At 21, he is again in need of his vital reserves to meet the financial worries of starting a home with a young wife—knowing everything except how to cook.

So it would be a real economic saving to isolate the aged tuberculous and a few years would demonstrate a marked decrease in the incidence of juvenile T.B.C. These are a few factors which will, in the next five years, leave all except county seat towns, without an M.D. under 55 years of age, unless some action is taken by each county or its citizens.

With the cystoscope, X-ray, basal metabolism apparatus, the dentist and eye, ear, nose and throat and genito-urinary specialists busy, there will be practically no practice for the small town doctor except on cold and stormy nights when the patient can't get away from home.

THE KAHN PRECIPITATION TEST IN SYPHILIS*

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There is now a blood test which is destined to play an important role in public health by making possible a greater control of syphilis than has heretofore been achieved.

It has been estimated that something over two million people in the United States are infected with syphilis. And, in many other countries, the number of infected individuals in proportion to the population is far greater.

Syphilis is an especial menace to public health because during its most infective stages the patient is not sufficiently ill to be confined to his home. In diphtheria. pneumonia or typhoid fever, for example, the acuteness and the severity of the attack sends the patient to bed and this enforced quarantine is an important protection to the community. In syphilis, however, the patient moves about in the community, doing things that should not be done, thus daily endangering the health of his associates.

A blood test is of utmost importance in the detection of syphilis. The disease, during certain stages, manifests itself in symptoms of every conceivable form, making its diagnosis, without a blood test, extremely difficult. Again this difficulty is intensified by the fact that most patients will not admit exposure to the infection. These difficulties are in addition to the hereditary factor.

At present there are two principal tests: the Kahn which is a precipitation test, and the Wassermann which is a complement fixation test. It is my purpose to show the superiority of the Kahn test for laboratory purposes.

To understand these tests, it will be necessary to see what immunity is. "Immunity is that power by means of which disease organisms are prevented from gaining a foothold in the human or animal body, or their harmful products neutralized, or they themselves destroyed."

As a result of an attack of a disease or in response to the stimulus of the injection of the causative organism or its products, we have developed in the man so infected, or injected certain specific properties antagonistic to that organism, which can be demonstrated in the blood serum or other body fluids. The general term *antibody* is applied to this antagonistic power.

There are four powers or antibodies; these are the known ones, all four of which may be present in equal or varying degrees in one individual: (1) Agglutinating power by which we mean that antibody which causes evenly distributed organisms to come together and form clumps. The Widal is an agglutination test. We can also call this agglutination power "immune bodies of the second order." (2) Precipitating power, by which we mean the ability of a serum possessing it to cause precipitates in a clear solution. The Kahn test is a precipitation test, or more properly a flocculation test. All medico-legal tests are based upon this principle. (3) Opsonic power, by which we infer the presence of an antibody which so alters the resistance of bacteria that the phagocytes ingest them. (4) Bacteriolytic power, by which we mean that which brings about disintegration or lysis of a specific organism.

The antibody in an immune serum responsible for the phenomenon of precipitation is called a precipitin; the substance or antigen responsible for the production of this antibody is known as precipitinogen. The precipitate is the end result. Precipitins are probably not truly protective antibodies, like antitoxins and lysins, but they are quite similar to the agglutins in being products of cellular activity, and they are of value chiefly as indicators of this general antibody formation. They may, however, be concerned in preparing their antigens for the destruction and solution, just as opsonins prepare cells for the phygocytosis; but precipitins themselves possess no appreciable curative or protective virtures, and are of value chiefly in diagnostic procedures.

Wassermann in 1906, was the first to utilize the phenomenon of Bordet and Gengou in the serum diagnosis of syphilis. Properly speaking the term "Wassermann Reaction" should be applied to the original method of Wassermann and not to the many modifications; but practically it has become synonomous for all laboratory tests for syphilis, or better for the complement fixation tests, as the globulin, mastic and colloidal gold tests (Lange's) which are used in the determination of, or in the differential diagnosis of paresis, cerebro-

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spinal lues and tabes dorsalis, and are not complement fixation tests.

The Wassermann employed five reagents: (1) Patient's serum; (2) Complement, from the guinea pig, as the native complement in the patient's serum is killed by inactivation, 56 degrees C. for one-half hour; (3) Amboceptor, made from the rabbit; (4) Red blood cells, either sheep or human; (5) Antigen. The first antigen was made from the heart muscle of a luetic fetus; now antigens are made from beef hearts.

The Wassermann is a lengthy and indirect method, as complement, amboceptor, and red blood cells are ingredients unrelated to syphilis. In the Kahn test the patient's serum and the antigen are the basis and only ingredients, excepting normal salt solution.

Now as to the percentages of Wassermann positive with known syphilis, McDonagh says the Wasserman is positive 73.9 per cent in primary and 97 per cent in secondary cases, and in tertiary cases only 70 per cent are positive. According to the Board of Health of Michigan there is a 99.4 per cent agreement between the Kahn and Wassermann. Certain cases of syphilis exhibit a persistently positive Wassermann, notwithstanding treatment that is considered standard practice. The same can be said of the Kahn. These cases are few however, but when a patient is persistently positive after treatment, or Wassermann fast, he is considered to have grave, rather than trivial syphilis.

In the state of Michigan after a comparison of 160,000 tests parelleled with the Wassermann in their own laboratory in Lansing and in the University Hospital in Ann Arbor, and in many thousands of other tests, investigators found the Kahn more sensitive in primary and treated cases of syphilis. So it was adopted as standard by the Health Council of Michigan in October, 1925.

The Medical Department of the U. S. Navy adopted the Kahn as standard for numerous reasons, but one of the main reasons was that the test could be performed aboard ships without guinea pigs, rabbits, or sheep; and the Kahn antigen remains stable in any climate.

In a letter dated October 5, 1927, from Dr. R. L. Kahn, he stated that the Kahn is the standard in Michigan, Illinois, West Virginia, Province of Nova Scotia in Canada and in the City Health Departments of Detroit, St. Louis and Memphis, and in all the laboratories of the United States Navy.

A pamphlet enclosed with the letter giving a report on 300,000 Kahn tests indicates this test is a dependable laboratory method in the diagnosis of syphilis.

The following is from the A.M.A. Journal of March 19, 1927: "Hopkins and Brunet present a summary of work done on approximately 135,000 serums by 35 observers from which mass of material they deduct the following facts: (1) The Kahn appears to be as specific as the Wassermann; (2) It appears equally sensitive in other cases and more sensitive in primary and treated cases; (3) It is infinitely simpler to perform; (4) It is cheaper and less time consuming, meaning that the physician can secure reports sooner."

In an emergency case such as in a blood transfusion, a Kahn report can be made in an hour.

Now, if we accept these deductions we are put squarely up to the logical conclusion, which is that if we perform only one test in the laboratory, that test must be the Kahn and not the Wassermann. The physician will then have to realize that the Kahn is a standard and not adjunct and supplementary to the Wassermann.

I would like for Oklahoma to be the first state west of the Mississippi to adopt the Kahn as a standard test for syphilis.

THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS*

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It would seem that nothing could be added to so shop-worn a subject as the diagnosis and treatment of pulmonary tuberculosis; however, an occasional resume may be helpful in keeping before us the proven and tried means which we have at our disposal for combating this disease.

A Diagnostic Standards Committee appointed by the president of the National Tuberculosis Association in 1925 concluded that there are five essential criteria of diagnosis of pulmonary tuberculosis:

1. A history of hemoptysis of one dram or more without any other known cause.
2. A history of an otherwise unexplained pleurisy with effusion.

*Read before the Osage County Medical Society, December, 1927.

3. Definite rales which persist for a week or more in the upper half of the chest.
4. Definite evidence of parenchymal changes seen in the X-ray film, located usually in the upper half of the chest.
5. The demonstration of tubercle bacilli in the sputum on two or more occasions.

The first and second constitute merely presumptive evidence, the third and fourth, while at times misleading and possibly due to other causes, nevertheless very strongly indicate pulmonary tuberculosis. The fifth is practically always conclusive evidence of pulmonary tuberculosis, although it must be borne in mind that in rare cases, tuberculosis of the tracheobronchial lymph nodes without involvement of the lung parenchyma gives rise to a positive sputum.

While the above embodies most of the evidence necessary for a positive diagnosis, it is of great importance to take cognizance of other less striking signs and symptoms and to evaluate them in each individual case. To do this it is best to follow a fixed plan and to gather all the evidence possible before rendering an opinion. Occasionally deviation from this course may be necessary, but a routine which includes a careful history, general as well as physical examination of the chest, X-ray examination, inspection of the larynx, laboratory findings, (sputum, blood, urine) and in some instances special laboratory procedures, as well as an adequate period of observation, should be adhered to whenever possible.

Modern laboratory procedures should not be relied upon to the neglect of the older clinical methods, namely accurate history taking and physical examination. It requires as much skill to elicit a good history as it does to make the physical examination; this skill can only be attained by long years of patient and painstaking practice, in fact as much practice as it takes to properly interpret what is heard with the stethescope; because this is tedious, it is often neglected. The history may give the only clue to the diagnosis.

In taking the history the patient should first be allowed to tell his story in his own way. This gives the examiner time to study the patient's mental make-up, whether he exaggerates or minimizes his symptoms, is pessimistic, or affected with (spes phthisica), how he feels toward his previous medical advisers, etc.; in short, a period of practical psychology. A long recital of symptoms is here unnecessary, but it might be well to stress a few of the more important ones, especially those that can usually be elicited if a tuberculous infection is present. The onset may be insidious without any apparent cause, more often an acute cold seems to be protracted or the tuberculous infection manifests itself after an acute infectious disease such as measles, pneumonia, typhoid, etc.; often it is activated after pregnancy or a miscarriage. Unexplained general weakness is perhaps more frequently encountered than any other symptom, which is often accompanied by a loss of weight, though in some cases of early tuberculosis to a very slight degree. Some type of cough is usually present though it may be hard for the patient to admit it. I have had patients emphatically deny that they coughed, and in the next breath be seized with a violent paroxysm of which they may or may not have been conscious. So far as I know there is nothing characteristic about the cough of the tuberculous, it may be slight, dry and hacking or so violent as to cause emesis. The expectoration, of course, depends upon the amount of destruction of lung tissue, mucous, mucorpurulent, or purulent, at times blood-streaked and varying in amount. Fever is usually of the hectic type, though in some instances the highest temperatures are recorded in the morning. It may be remittent, intermittent, or septic in character. If there is no fever at the first examination the patient may be instructed to walk to the office for a subsequent one and if the temperature is taken immediately upon his arrival it will often be found that he has fever, sometimes surprisingly high. The pulse is accelerated with the fever and both are reduced by rest. If in a given case tachycardia persists in spite of rest, so that the pulse rate remains at 120 or more, hyperthyroidism must be excluded.

The appetite may remain normal in spite of prolonged fever, and patients who are having complete rest may gain in weight temporarily in spite of a progressive lesion. There may be almost any kind of digestive disturbance as an early symptom of pulmonary tuberculosis. Gastric hypo and hyperacidity have in my experience been about evenly divided. I have had one case in which there was simultaneous hemorrhage from the lungs and from a duodenal ulcer. Prolonged diarrhea may mean intestinal tuberculosis or amyloidosis. It has been shown at autopsy that there is in-

testinal tuberculosis in about two-thirds of all cases of pulmonary tuberculosis whether there are symptoms or not. Prolonged hoarseness calls for a careful examination of the larynx; however, this symptom does not always mean tuberculosis, it may be due simply to cough and the expectoration of irritating sputum.

Hemoptysis is a common symptom, though not as serious as it is terrifying to the patient. Fishberg, quoting Williams, concludes that when we say that hardly one out of a thousand deaths due to tuberculosis is caused directly by hemorrhage, we are as near the true figure as possible; hardly two per cent of tuberculous patients who bleed succumb to this accident. One often hears that patients are better after a pulmonary hemorrhage, and it is true that this is sometimes the case, but the other extreme, namely a fatal broncho pneumonia may just as well supervene. At times hemoptysis is the only demonstrable sign or symptom in mild tuberculosis and repeated examination of the bloody expectoration is necessary before tubercle bacilli can be demonstrated.

A pluerisy with effusion which is not post-pneumonic or due to focal infection usually proves to be tuberculous. If a fistula in ano or other extra-pulmonary complications are discovered, the lungs need careful investigation since they are usually the seat of the primary infection. The question of primary and secondary infection of the lungs cannot be gone into in this paper; it has been fully covered by such writers as Aschoff and Krause.

Urinary symptoms should not be neglected and in this connection it must be remembered that meningitis frequently follows tuberculosis of the genito-urinary system.

In taking the past history such things as unexplained fevers and glandular enlargements in childhood are important. Whether there is some inherent characteristic in some families which predisposes to tuberculosis or whether the same living conditions and environments are responsible we do not know. At any rate, we do know that entire families have been wiped out by the disease.

PHYSICAL EXAMINATION

A general physical examination is first in order, inspecting every part of the body, and this is supplemented by an especially careful examination of the chest. The heart is first investigated, recording also the pulse and blood pressures. It is not my purpose to describe all the physical signs found in advanced tuberculosis, such as those found in cavity formation, consolidations, effusions, pneumothoraces, etc., but to stress the findings in two conditions which seems to me to be very important. The most constant sign of early tuberculosis in my experience is the presence of moist rales heard at the end of inspiration immediately after a slight cough (cough, not clearing of the throat) persisting on repeated examination and most commonly found in Kroenig's area. This area is about the size of a dollar and located at the midpoint of a line drawn from the spine of the seventh cervical vertebra to the spine of the scapula. At this point there is often also some impairment of resonance, though this may be masked by emphysema around the lesion, and in this way the disease may be located in the wrong apex. The other condition is that of fibrosis which is characterized by a paucity of physical signs. The chest may be hyperresonant and the breath sounds of a soft blowing character which is easily overlooked. Extensive fibrosis, even to the point of marked secondary bronchiectasis, may produce no abnormal physical signs. Here a correlation of the physical findings and the X-ray findings is especially valuable; the physical examination should be made before the X-ray film is viewed.

A highly profitable method of studying physical diagnosis is to compare autopsy findings with previously recorded physical and X-ray signs. Useful data is added to the physical examination by the estimation of the vital capacity and the basal metabolic rate.

LABORATORY EXAMINATIONS

Sputum. The Ziehl-Nielson method of sputum examination is still the most practical and reliable. Repeated examinations should be made if tubercle bacilli are not found the first time; the patient should be instructed in regard to the collection of the sputum and impressed with the fact that the sputum should be coughed up from the lungs and not obtained from the nose or throat. Occasionally the sputum is treated with antiformin or guinea pig inoculation is resorted to. Corper has stated that 1,000,000 tubercle bacilli must be present in a cc. of sputum before they can be demonstrated on an ordinary slide.

Urine. A routine urinalysis should be a part of the examination of every tuberculous individual; if the symptoms warrant it, the sediment should be stained for tubercle bacilli by the acid-alcohol method.

The urochromogen test has been employed by some as an aid in prognosis.

Blood. The blood in early tuberculosis is usually normal although with advance of the disease some form of secondary anemia is present. The blood picture in advanced tuberculosis may closely mimic the various anemias. If the disease is progressive and fever is present, there is usually a moderate leucocytosis of the polymorphonuclear type 12,000 to 13,000, but with clinical improvement there is an increase of mononuclear cells usually a lymphocytosis, with a decrease of the total number of white sells.

A blood Wassermann test should also be a part of the routine.

The sedimentation rate of the red blood cells and the complement fixation test are refinements that can scarcely be employed in private practice and are of doubtful value in institutional practice.

Tuberculin tests should not be relied upon for a diagnosis. They are positive alike in latent and active tuberculosis, and indicate tuberculous infection broadly speaking, but not necessarily tuberculous disease.

ROENTGEN EXAMINATION

X-ray films taken with a rapid technic and viewed in the stereoscope will reveal exceedingly small lesions; however, great care and judgment is necessary not to see too much, or to interpret harmless shadows as pathologic lesions. The early tuberculous lesion is usually a feathery congestive mottling seen in the apex or upper lobe towards the periphery and having a corresponding drainage shadow at the hilus. The very great value of the X-ray as a diagnostic agent in all diseases of the chest, in early as well as the more advanced conditions, need not be commented upon.

To complete the examination the nose and throat should not be neglected and particularly does this apply to the larynx; the teeth also are important . If there are symptoms pointing to a surgical condition, a surgical consultation should be had.

In a few instances after some or all of these measures have been employed, there may still be some doubt as to an absolute diagnosis. It may then be helpful to use exercise tests, that is, to take the temperature immediately after and three or four times at half-hour intervals. If there is actually a tuberculous infection present, fever will usually make its appearance after a reasonable time. Prolonged clinical observation and repeated examination often brings to light conditions that were not at first apparent. Let me point out again the importance of the history, and the marshaling and reviewing of all of the facts obtained from the physical and laboratory examinations before arriving at a conclusion.

TREATMENT

An early diagnosis is to be regarded as an essential part of treatment, but in our zeal to make an early diagnosis extreme care should be used so that non-tuberculous cases, such as lung abscess, bronchiectasis, foreign bodies in the lungs, chronic bronchitis, asthma, hyperthyroidism, pellegra, and various diseases produced by fungi, etc., are not labeled tuberculosis.

After the diagnosis is definitely established it is important that the affected person be removed from his home, not only to avoid infecting other members of his family, but to secure a change of environment for the patient and to facilitate the cure away from the hampering influence of his relatives and friends. Undoubtedly the best place is a properly conducted sanatorium located in a favorable climate (which, if not the panacea it has been said to be, is a decided help for this class of patients.) The sanatorium routine should be strict, educational as well as therapeutic. Popular lectures should be given stressing the importance of prophylaxis and their conduct after leaving the institution, for their own benefit and that of others with whom they may come in contact. Meanwhile the fundamentals of treatment, namely rest, fresh air, good food, personal hygiene, and the cultivation of a cheerful disposition should be so ingrained that they will become automatic under the ordinary conditions of life. The patient should not be kept in the sanatorium too long, generally speaking, in one year he should learn almost everything the sanatorium has to offer. This may be modified if the patients have no other place to go and must be kept in the institution for long periods or until they no longer have tubercle bacilli in the sputum. In many instances this is impossible, but a properly trained consumptive is far less a menace than those who do not know that they harbor the germs. Krause' has made the statement that if every person who has tubercle bacilli in the sputum were confined in a sanatorium bed, tuberculosis would soon disappear, but he realizes that it will be a long time before this ideal will become a realtiy, so we can go on building sanatoria and if in later years they are not

needed for treatment of tuberculosis, good use can be made of them for the treatment of rheumatic fever and heart disease which seem to be on the increase. Even with the non-specific methods used, the mortality from tuberculosis which was 208 per 100,000 of population in 1904 has been reduced to 92 per 100,000 in 1924.

Most of the special aids used in the treatment of tuberculosis aim at putting the affected part to rest; postural methods and various types of apparatus designed to limit the respiratory excursion have been used, but the most useful and popular procedure is artificial or induced pneumothorax. This operation was first suggested by James Carson in 1833 but was forgotten until it was revived as a therapeutic measure by Forlanini of Pavia in 1894. The late John B. Murphy independently of Forlanini injected nitrogen into the pleural cavity for tuberculosis in 1893 and for a time advocated its use as soon as the diagnosis was made. Brauer and Spengler took it up in Germany and for a time used the open methods, e.i. they made an incision between the ribs down to the pleura and injected the gas through a cannula. At the present time the puncture method of Forlanini is used almost exclusively. The object of the operation is to compress the affected lung by introducing into the pleural cavity a sterile and harmless material. For a long time nitrogen was used, then oxygen, but of late years it has been found that filtered air is just as good or better than anything else. The technic of the operation of induced pneumothorax is simple if everything goes well, the all-important point being that the air is injected into the pleural cavity and not into the blood vessels or tissues.

The most popular apparatus used is the Floyd-Robinson or some modification of it. It consists essentially of two glass bottles connected by glass and rubber tubing so that by siphonage the water in one bottle displaces the air in the other out through the tubing to the needle in the chest. In the circuit is placed a water manometer which is connected with the tubing by a stop-cock so that the oscillations of the manometer can be observed before the air is turned on. This is a most important part of the procedure and tells absolutely whether or not the point of the needle is in the pleural space and if it is safe to inject air. The manometer should show oscillations of at least 3 or 4 cm. of water pressure before the air is allowed to flow in. The needle should be a specially constructed one, about 1½ to 2 in. long and of not too large a caliber; it should have a fairly blunt tip and be equipped with a stylet, a two-way stop-cock and a side arm to which the tubing is attached. The puncture is made between the ribs in an area anesthetized with a 1 per cent solution of novocain (some use a small caliber needle without anesthesia) usually in the axilla or posterior axillary line, but any safe area of the chest wall can be used. The patient is placed upon the well side with a pad or pillow under the chest to spread the ribs of the side to be compressed. The patients should be reassured and cautioned not to cough without first telling the operator so that the water will not be expelled from the manometer. The needle should be introduced carefully through the chest wall. A shield is sometimes used to prevent plunging the needle into the lung tissue. As the needle pierces the parietal pleura, a peculiar popping sound is heard, to the feel of which one soon becomes accustomed. The needle should be introduced and withdrawn at right angles to the chest wall; on no account should it be given a rotary motion since this may tear the lung and produce serious hemorrhage or spontaneous pneumothorax. When the needle is in place the stylet is removed and the stop-cock turned so that the needle is in communication with the manometer, if then with inspiration the water rises in the right arm of the manometer, we have a negative reading, and if the oscillations are satisfactory, e.i. from 3 to 4 or more cm. we close the manometer and turn the stop-cock which allows the air to flow in. Not more than 300 cc. of air should be injected at the first filling, the amounts and frequency of subsequent fillings are determined by the behavior of each case, but very large amounts of air are now never injected at a single operation and high positive pressures should not be produced. Many interesting and atypical manometric readings will be encountered but their explanation cannot be gone into here. All this is of course carried out with strict aseptic precautions.

Indications. The disease should be confined largely to one side, although some involvement in the contralateral apex or upper lobe should not be looked upon as a strict contraindication. Indeed, with compression of the most involved side the lesser lesion on the opposite side often shows improvement. Formerly this operation was reserved for advanced and hopeless cases as a last resort, but of late the pendulum

has swung the other way and it is now often used in fairly early cases. However, it is fairly well agreed upon at present, that the best results are obtained in the chronic moderately advanced progressive cases in whom the disease shows no tendency to become quiescent but who also have some degree of resistance.

Sometimes in the more acute cases the results of pneumothorax are very striking. The symptoms subside in a few weeks; fever, tachycardia, night sweats, cough and expectoration disappear and the entire course of the disease is changed. The improvement, however, is not likely to be so permanent in this class of cases as it is in the more chronic types. Hemorrhage is another indication. It is of little value in the fibroid and miliary types.

Contraindications. Extrapulmonary complications, such as intestinal and laryngeal tuberculosis, were formerly looked upon as contraindications, but it has been found of late that a good lung collapse often also improves these conditions and is therefore used more freely. Advanced heart, blood vessels, and kidney disease are contraindications.

Pleural adhesions are the bug-bear of this procedure and cause more failures than anything else, if they are present to any extent; they constitute a most serious obstacle and defeat the operation from the outset. Usually it cannot be determined without a trial whether extensive pleural adhesions are present or not. They are less likely to be present in the acute than in chronic cases. If after several fillings long strand-like adhesions prevent a satisfactory collapse, they can be freed by cauterization through a thoracoscope after the method of Jacobeus, but only in a very limited number of cases. Adhesions form more readily over the diseased areas of the lung, so that we may have a cavity in the upperlobe, which is prevented from collapse by dense adhesions, while the rest of the lung which is only partially infiltrated may be collapsed, but even so, the immobilization of the lung obtained in this way may be of some benefit. Occasionally we are fortunate enough to get what is termed a selective collapse. Given a free pleural cavity, the diseased portion of the lung have lost some of their elasticity and are therefore compressed more easily than the healthy lung tissue; this is ideal, though not often attained or maintained for any length of time.

Complications. Of the immediate complications the most serious is the introduction of air into a blood vessel producing air embolism, while this is not always fatal it is a very terrifying accident. Pleural shock is looked upon by some as air embolism, by others as a reflex spasm of the cerebral vessels due to puncture of the pleura. Hemorrhage or spontaneous pneumothorax (accidental) may result from injury to the lung. At times the air works its way back along the needle puncture into the subcutaneous tissues and produces an emphysema, which is usually not serious and passes away in a few days. Of the more remote complications, pleurisy and pleural effusions are by far the most common and important. An effusion occurs sooner or later in about 50 per cent of the cases; most of them are serous but a certain percentage become purulent. An exudate occurs in almost direct proportion to the severity of the disease. If mixed infection does not supervene the prognosis of these effusions is fairly good. They should be treated by aspiration and replacement with air.

As has been stated, the immediate results in cases in which a satisfactory collapse is obtained are wonderfully good and sometimes even spectacular; but this cannot always be said if the cases are followed for a long time. The pneumothorax should be maintained for long periods from one to five years and it is an extremely difficult problem to know when it should be discontinued because we have no sure way of knowing when the lesions are healed. If the cases are carefully selected the ultimate results are better with than without pneumothorax treatment.

Statistics are of little value here as usual, because of the widely varying clinical condition of the patients treated, but a general idea of the results can be gotten from the large series of cases reported by Matson, Matson and Bisaillon'. They report a summary of the character of the pneumothorax and the results of treatment in 600 cases. Of the 235 cases with a satisfactory collapse 114 are clinically well, 44 are arrested, and 52 are dead. Of the 245 cases with a partial collapse 28 are clinically well, 29 are arrested, and 142 are dead. Of the 120 cases in whom no free space was obtained 7 are clinically well, 11 are arrested, and 80 are dead, showing the greater proportion of favorable results obtained in the cases with a satisfactory pneumothorax.

If in a certain percentage of carefully selected cases it may still seem to be desirable to compress one lung, even though

artificial pneumothorax has failed on account of extensive adhesions or for other reasons, we may then have recourse to one of the thoracoplastic operations. Many such operations have been devised and used with varying degrees of success, but the most popular one and the one which has best stood the test of time is the Wilms-Sauerbruch extrapleural paravertebral thoracoplasty. Briefly this operation consists of the removal of sufficient portions of the XI to the I ribs (including the I and eleventh ribs) from below upward in two stages. A long J-shaped incision extends from the neck downwards about 3 in. from the spine and is curved laterally below at the costal margin. From 1 to 6 in. of the ribs are resected subperiostealy, care being taken that they be removed all the way to the tips of the transverse processes of the vertebrae. Small pieces of ribs removed close to the spine cause much greater compression of the thorax than pieces removed farther laterally. Usually the seven long ribs are resected at the first operation and the remainder at a second operation from two to three, but not more than six weeks later, because of the rapid bone regeneration. Some doubt may exist as to the wisdom of resecting the lower ribs first because of the danger of causing retention of the sputum, especially if cavities are present in the lower lobes. This may be overcome by resecting the upper ribs first or by doing a preliminary phrenicotomy. The operation can be done under nitrous oxide and oxygen or ethelene anesthesia, but many operators prefer paravertebral blocking with novocain.

Given a case which is a suitable surgical risk, the indications and contraindications are the same as for artificial pneumothorax, but there is the added advantage that the thoracoplasty can be performed in those cases in which there are extensive pleural adhesions or in which pneumothorax has been unsuccessful or discontinued for other reasons. The most important point is the proper selection of cases; and here the closest cooperation between surgeon and internist is highly essential. Both artificial pneumothorax and thoracoplasty have some advantages and disadvantages. Patients will submit much more readily to pneumothorax than they will to the more serious operation. Moreover, if the disease lights up in the contralateral lung, the pneumothorax can be discontinued or aspirated and the lung allowed to re-expand, the degree of re-expansion depending upon the length of time that it has been compressed and upon the amount of pleural and intrapulmonary scar tissue that has formed. The thoracoplasty on the other hand, is permanent and the collapse may not be so complete as in the pneumothorax.

A thoracoplasty may be better for patients who cannot or will not continue the pneumothorax treatment for the long period of time necessary, nor is there the danger of effusions or gas embolism. Thoracoplasty is a serious operation usually undertaken in patients who have been ill for a long time and according to Alexander[4], the mortality is 13.2 per cent during the first two months from causes directly or indirectly due to the operation. He further states that surgery has favorably influenced 61.2 per cent of the patients reported as operated upon during the past seven years and has actually cured 36.8 per cent of them. However, we must look upon these clinical cures just as we look upon the cures in tuberculosis affected by any other means and use every beneficial agent available to keep them cured. Both thoracoplasty and induced pneumothorax can, with advantage, be supplemented by a phrenicotomy. Through a small incision in the neck parallel to the clavicle or along the posterior border of the sterno-cleido-mastoid the phrenic nerve which lies on the scalenus anticus is exposed. It is identified by pinching, which produces either pain in the shoulder, a diaphragmatic reflex, or both. It is then grasped by two forceps and cut between, the distal end is then rolled out upon the forceps, it usually tears after 2 or 3 in. have been drawn out of the chest. At times a complete exairesis is possible, which also destroys the accessory phrenic nerves and prevents regeneration. One side of the diaphragm is in this way paralyzed and in a few days it slowly rises into the thoracic cavity for a distance of 2 or 3 in. and compresses to some extent the lower lobe of the lung.

In the time allotted only the high-lights can be mentioned, and very few of the interesting problems that arise in connection with these forms of treatment can be discussed. But it is to be hoped that as our knowledge increases and as refinements are perfected, that these aids in the treatment of tuberculosis will be made available for a greater number of patients.

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PULMONARY TUBERCULOSIS FROM THE VIEW-POINT OF THE X-RAY*

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The purpose of an X-Ray examination of the chest is to locate and describe abnormal densities and thus detect pathological changes. One must be able to identify tuberculosis and differentiate it from other lesions of the chest, to classify it and arrive at findings which will give a workable basis both as regards prognosis and treatment.

It is well recognized that there are no pathognomonic physical signs of lung tuberculosis. However, radiologists believe that their particular contribution to the physical examination of the chest, when skillfully interpreted, will more accurately indicate the nature of a lesion as well as its location and extent than will any other part of the examination. Since the criterion which the physician accepts in physical findings as suggestive of tuberculosis and those which point the radiologist to this conclusion are based on the same fundamental of anatomy and pathology, there should be no antagonism. The radiologist must always remember that his contribution to the physical examination is supplementary even on those occasions when the supplement is more important than the real meat of the examination.

The fundamental investigations of Miller and Dunham, many years ago, regarding the architectural structure of the lung, the method of invasion by tubercle bacilli and the pathology produced pointed the way to the subsequent observations that tuberculous infection and infection by other bacterial invaders produce different kinds of shadows in the lung field. If we will base our interpretations upon the fundamental investigations as laid down by Miller and Dunham and to which there has been no material addition, we will be able to differentiate the etiological factors with a certain degree of success. I am of the opinion that whenever we depart from the fundamentals mentioned and attempt to interpret shadows as tuberculosis without any proper regard for the underlying pathology we will be working on a very poor foundation which will lead us to make findings of an erroneous nature.

It is known that tuberculosis invades lung tissue through the lymph channels, therefore, that the infection first surrounds the lobules because the lymphatic vessels enclose each anatomical lung unit very much as a fish net holds its contents. The smallest visible tuberculous lesion therefore is a dim outline of a secondary lobule, with its congested lympthatics and beginning consolidations, such a lesion is essentially parenchymatous since the lung parenchyma fills all the space between the hilus and the pleura, the tuberculous density may occur anywhere in the lung field. The lesions have a definite relation to the bronchial tree and this relation can be traced by the striation densities which mark the blood vessels accompanying the bronchi. In instantaneous films, with the very finest detail, we can make out the extremely delicate shadows surrounding the involved lobule within which is an area of increased opacity. On the usual film there is only a blurring or haziness more or less sharply outlined from the surrounding tissues being roughly triangular at the lung periphery, though with varying shapes when located more or less deeply within the lung.

In addition to its definite character, the density is, for all practical purposes, an upper lobe shadow. Without discussing the reasons for this, it is a fairly safe rule that tuberculosis does not invade the basal regions until the local or general resistance has been lowered by some accompanying infection.

Therefore in differentiating the lung shadows, with reference to their etiology, we have two fairly safe guides: one is the location of the density, the other is its structural pecularity. The pyogenic infections of the lung are homogeneous as a rule, and invade along the bronchial mucosa, spreading from within the structural units, so that when developed to the stage

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of visibility, they are relatively more opaque than are tubercular shadows. Of course after a consolidation is well established the shadow will be the same whether the invasion is from the periphery through the lymphatics or from the center, as in pyogenic infections. However, it is very seldom that we find isolated tuberculous consolidations without adjoining lesions presenting typical characteristics of early tuberculosis. Tuberculous consolidations when complicated usually spread by continuity and coalesce, while those of other infections are more likely to be discrete, even when quite numerous.

When pyogenic or influenzal infections occur in the tuberculous lung, their shadows do not differ materially from similar densities in the non-tuberculous lung. In the hitherto normal lung, such infections are prone to involve the basal or hilus regious so that accentuation of the hilus densities, or discrete densities in the hilus region, or discrete or irregular densities at the base, should be interpreted as probably non-tuberculous. When the same type of shadows occur in a tuberculous lung, they should again be interpreted as probably non-tuberculous. If we have a cavity in the upper lobe of one lung and it becomes secondarily infected, we will soon find in the parenchymatous tissue surrounding this cavity shadows which, if found elsewhere in the lung, we would undoubtedlly regard as the densities of non-tuberculous lesions. It is just as reasonable to interpret them as lesions produced by secondary invaders of the cavity as it is to regard them as tuberculous densities. In many cases an analytical interpretation is not possible, because a tuberculous casesting area soon becomes secondarily infected, and areas of secondary infection frequently become tuberculous, so that the shadows become so interwoven that the best we can say is that the method of extension and possibly the character of isolated densities suggest the influence of secondary infection complicating the tuberculosis.

Many of these densities which we attribute to non-tuberculous infection resolve and disappear. It may be said here that a point of controversy is whether a true tuberculous lesion, after developing into the stage of visibility on the X-ray film, will entirely resolve, leaving no trace of the shadow. It is my belief that a tuberculous area will not entirely heal by resolution, but there will always be some degree of cicatrization with resulting fibrous tissue changes that are visible on the X-ray negative.

It is unfortunate that roentgenologists do not use the same terminology in interpretating. Since the art of diagnosis of tuberculosis of the lungs has not yet reached the point where clinical and pathologic activity, physical signs and roentgenographic findings can be accurately correlated, it would be wise not to use the terms active and inactive in our interpretations, but to substitute recent and not recent. The terms "progressive" and "retrogressive" are also helpfully applied in subsequent reports on serial roentgenograms.

X-ray examination has been of the greatest service in the early diagnosis of tuberculosis not only because it has given a convincing demonstration that the X-ray can and does reveal unsuspected deep seated lesions, but because properly used, it becomes an unexcelled method of instruction in physical diagnosis of the chest.

CONCLUSIONS:

1. The tuberculous lesion very early in its development presents certain distinctive characteristics recognizable in the roentgenogram.

2. The differentiation of symptom producing tuberculous lesions is a clinical as well as a roentgenological problem.

3. The roentgenogram frequently presents the only objective signs of disease and the roentgen study of every case is of the utmost importance from the standpoint of diagnosis and of prognosis.

4. The coordination of positive roentgenographic data with the clinical and physical findings is very important.

5. Any abnormal shadows confined to the basal region alone, whether due to an accentuation of the bronchial tree ramification or whether they are entirely isolated; whether recent or old, unless they present the typical characteristics of tuberculous infection, we feel should be interpreted as non-tuberculous in character.

6. The peribronchial thickening in the hilus densities in the adult are usually non-tuberculous in character. In the child it is practically impossible to differentiate the shadows of hilus tuberculosis from those of non-tubercular lesions.

7. The practical value of differentiating whenever possible the shadows of tuberculosis from those of a complicating infection should be obvious.

8. Aside from these factors of practical value to the clincian it is expected of the radiologist that he will go as far as possible in the study of and interpretations of types of pathology examined by him and nowhere in the body can this analysis of pathology be carried so far as in the study of lung shadows.

PERSONALITY TRAITS AND THE INSANITIES*

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In considering personality traits people may be divided into two great classes. One great class touches the world at many, many points. They make a flight into reality as an attempt at settling the problems of their life. They become great leaders and are constantly dealing with their environment. They are great leaders of pioneer movements and make a great effort at dominating all situations.

The other great class of people who are also normal represent those apparently solid, quiet thinkers who deal very largely with their own thoughts. Their day dreams are very vivid. They take that which they find and build into a great fabric of science, mechanics or philosophy. They usually represent the great inventors.

Dr. William A. White of Washington, uses the terms "extroversion" and "introversion," as also Professor C. G. Jung of the University of Zurich. Dr. White says, "Extroversion and introversion are only different aspects of life. Whole civilizations partake of the character of one rather than the other. The Eastern civilization is essentially based upon introversion, the Western upon extroversion."

"Oh, East is East, and West is West, and never the twain shall meet."

The extrovert goes West and builds new countries while the introvert stays back home.

As is readily seen, the marked extrovert, touching the world of reality at many points, has great difficulty in understanding the introvert, who lives a life more or less away from reality and becomes the dreamer or philosopher of the race.

In order to understand still further these two types of reaction we will consider a few figures from history. As an example of an extrovert we will take one of the most popular men that America has ever produced, Roosevelt. Roosevelt, when we consider his reaction to his environment, was a typical extrovert. He touched the world at many, many points and always made a desperate effort to dominate his environment. He was a great leader of men, but was never led. He was a hunter and loved to do pioneer work. In this he was an extrovert. As an example in opposition to Roosevelt let us consider President Wilson. Wilson was the typical introvert. He was a deep thinker, at times a dreamer, and produced in his writings a philosophy. He made a desperate effort to dominate his environment but never succeeded as well as Roosevelt.

Again, as an example of the extrovert, we might consider General Sheridan of the Civil War. He was a leader of men, dashing, daring and never planning a retreat. In apposition to him, General Sherman was also a leader of men, a deep introverted thinker who saw far ahead, planned every movement of his armies, both in advancing and retreating. Sherman never went into a battle without considering every possible contingency which could arise. He planned retreating as well as advancing.

Anotner American who represents a typical normal introversion and whose name is now upon the tongue of the world, Colonel Lindbergh. Lindbergh has the great power of seeing clearly, definitely and far ahead. The power of imagination reaches almost to a point that it equals reality. In the building of his great airship he saw and handled every nut, every bolt and every piece of mechanism which went into its construction. He phantasied his trip across the Atlantic many, many times and upon several occasions, in preparation for that trip, it is reported that he went forty hours without sleeping. He also personified his plane and said "We." Only an introvert could have phantasied this trip as definitely as he did and could have executed the trip itself. The extrovert would have jumped into an airplane and, without preparation, would have landed in the ocean. As examples of extroverts, salesmen may be mentioned. The typical successful real estate salesman, for example, is always an extrovert. He goes down the street with a rattling old Ford, which is about six months ahead of the junk heap, while the introvert, when he travels, his

*Read before the Southeastern Oklahoma Medical Association, Durant, December 15, 1927.

car is polished and is spic and span. The extrovert makes a fortune out of his salesmanship, but the introvert would starve to death selling gold dollars for ten cents apiece. The extrovert is a plunger. He has ten cents, borrows ninety and does business on the dollar. The introvert handles money very carefully.

Another example of an introvert I wish to mention, Emerson, the great transcendentalist. He represents the true introvert who is more or less a mystic, but who gave to America some of its greatest philosophy. For example, his "Law of Compensation" represents very good philosophy and the essay has been translated into the language of practically every country where civilized people live.

When the extrovert leaves the great wide zone of normality he leads us into the manic-depressive insanity, and when the introvert again leaves the great broad zone of normality he leads us into the precox reaction.

As a religious leader who was an extrovert, showing manic depressive traits, we will mention Mohammed, the great religious leader who came to the Arabs. While in a high phase of his manic-depressive trends, he wrote the Koran, this being one of the greatest examples of a one man Bible, but in our attempt to read this Bible he shows the great character of the manic-depressive by his flight of ideas, which makes the Bible almost unreadable and less understandable to a reader of philosophy. He shows in this Bible more or less of Theomania, that is, he deals a great deal with God, the word God appearing upon practically every page from ten to fifty times.

As an introvert who gave to the world a Bible I will mention Buddha. When we consider the history of Buddha, we see that he is not only an introvert, but in many ways one would classify him as upon the verge of the precox reaction. For example, as was the custom in India, as a child he was married to a little princess, he, himself, being the son of the king. When adulthood was reached a babe was born to the princess, and immediately upon the birth of this child Buddha left his home, put on a beggar's robe and took a beggar's bowl, begging his living from house to house, and spending most of his time out in the wilderness. This he did for seven years, then returned to his native city as a teacher of religion. He never returned to his home or his wife. Yet in spite of this peculiar conduct he gave to the world one of its greatest religious philosophies.

In his teachings we find such sentences as these:

"Creatures from mind their character drive; mind marshalled are they, mind-made. Mind is the source either of bliss or of corruption.

"By oneself evil is done; by oneself one suffers; by oneself evil is left undone; by oneself one is purified. Purity and impurity belongs to oneself, no one can purify another. Let a man overcome anger by love, let him overcome evil by good; let him overcome the greedy by liberality, the liar by truth!

"Hatred does not cease by hatred at any time; hatred ceases by love.

"Speak the truth, do not yield to anger; give, if thou are asked; by these three steps thou will become divine."

In view of the fact that part of his life was abnormal we are surprised to find such philosophy.

As was said before, when the extrovert develops an insanity he becomes a manic-depressive. In the high phase he has flight of ideas, psychomotor excitement and emotional elation, i.e. he thinks fast, he acts fast and is happy. While in the depressive phase he has difficulty of thinking, psychomotor retardation and emotional depression. In this phase he thinks slowly, he acts slowly and is very depressed. Also in this phase he is always a potential suicide. He is so unhappy and suffers so much that he feels death is the only way out. Yet in this phase, because of his difficulty of thinking and difficulty of acting he finds it very hard to put his thought of suicide into execution.

The mixed manic-depressive presents a far greater problem to understand; because of these three fields of operation, thinking, acting and the emotional content, we may have many different combinations. Here we will discuss only one, and that is where the thinking is increased, the acting is increased and the emotion is depressed.

In this mixed condition the patient must always be considered as more than a potential suicide. He is almost sure to sooner or later accomplish his desire for death, and when recognized he must be put into a hospital and kept under close and careful supervision, because of the great probability that he will accomplish suicide.

When the introverted type becomes pathological he represents that great group that is called dementia precox. In this group the individual draws himself away from reality, living a life of phantasy. His phantasies become more real to him than reality itself. He is seclusive, suspicious, often jealous and filled with

ideas of persecution. His emotions usually become blunted and he presents serious defects of judgment. His conduct may become negative and forces him to do the opposite from which he really wishes to do. He spends the most of his time in autistic thinking or day dreaming, and becomes at times very disturbed if one interferes with his thinking. He frequently becomes the criminal.

There are several special types of dementia precox. They will be mentioned here but not discussed in this paper. There is the catatonic. type, which gives the prominence of the negativistic reactions, already mentioned. The hebephrenic type, which shows a vast amount of deterioration. The simple type, showing a small amount of deterioration, and the paranoid type, which frequently becomes homicidal. In recent years the "true paranoiac" has been more or less removed from the dementia precox classification, but will be mentioned here. He shows ideas of reference, delusions of persecution and becomes grandiose in the consideration of his own ego. He always becomes convinced that people "have it in for him" and are planning his death, and because of his delusions of persecution and the fact that there is no dementia in this disease, he nearly always kills. In fact, he is rarely recognized and put into a State Hospital until after he does kill. Many examples of this fact might be given but it seems unnecessary to repeat them here.

In conclusion I wish to say that there is a very broad field of normality in which people live, but that when people develop insanity without organic disease they generally go into one class or the other as above stated. I have purposely omitted smaller groups. The two great groups, manic depressive insanity and dementia precox contain the great majority of people living in the state hospitals.

VITAMINE

Experiments made by Herbert M. Evans and George O. Burr, Berkeley, Calif .(Journal A. M. A., May 7, 1927), give positive evidence that wheat germ—the highest and least varying source of vitamin E known—whose curative action at definite quantitative levels has been determined by hundreds of experiments when the substance is fed separately from the diet, can be robbed of its effectiveness when it is fed mixed with high amounts of certain fats such as lard, crisco and oleic acid. It seems likewise clear that these new facts explain in the simplest potible manner the clearly proved complicity of such fats in the accelerated appearance of sterility in dietary regimens in which vitamin E is low or lacking.

BOOK REVIEWS

Crawford W. Long and the Discovery of Ether Anesthesia. By Frances Long Taylor, with a foreword by Francis R. Packard, M.D., with eight full page plates, cloth, 237 pages, price $4, 1928, Paul B. Hoeber, Publisher, New York.

Few of the present generation, even of medical men, now recall the controversy waged over the discovery of ether anesthesia. It is now generally conceded that the first physician to use ether for the purpose of producing anesthesia for surgical work was the Georgian, Dr. Crawford W. Long. This volume goes into details, presenting irrefutable facts surrounding the matter of its discovery.

The Surgical Clinics of North America (issued serially, one number every other month) Volume 8, Number 1 (Lahey Clinic Number —, February, 1928) 210 pages with 74 illustrations. Per clinic year (February, 1928, to December, 1928). Paper, $12.00; cloth $16.00 net. W. B. Saunders Company, Philadelphia and London.

In this issue Dr. Frank H. Lahey discusses among other things, the Management of Post-Thyroidectomy Complications, Excision of the Stoma for Gastrojejunal Ulcer and Gastrojejunal and Jejunal Ulcer; Robert L. Mason, An Illustrative Case of Severe Hyperthyroidism—its management; Louis M. Hurxthal, The Use of Quinidin in Auricular Fibrillation; Howard M. Clute, Enterostomy in Peritonitis and the Technic of Tracheotomy; Lawrence W. Smith and John V. Leach, Melanotic Sarcoma of the Vagina and Status Thymolymphaticus Associated with Hyperthyroidism; Lincoln F. Sise, The Use of Ephedrin in Spinal Anesthesia. The issue contains many other valuable contributions.

Gynecology For Nurses. By Harry Sturgeon Crossen, M.D., F.A.C.S., St. Louis, with 365 illustrations, including one color plate; cloth, 281 pages, price $2.75, 1927. C. V. Mosby Company, St. Louis.

Dr. Crossen is one of the gynecological authorities of the country, an entertaining and instructive writer. After brief survey of pelvic anatomy and physiology in part one, the details of gynecologic nursing are extensively entered into. The work adopts as standard the system used in the authors practice.

Physical Diagnosis. By W. D. Rose, M.D., Associate Professor of Medicine, University of Arkansas, Little Rock. Fifth edition, cloth, 810 illustrations and three color plates; price $10.00, 1927. The C. V. Mosby Company, St. Louis.

In this edition the author stresses further consideration of the pathologic physiology of the heart. Manifestations of incipient cardiac insufficiency have been stressed. Recent advances in the technic of physical examinations have been included.

CONVENIENT AXILLARY DRESSING

A convenient axillary dressing has been constructed by Ethan Flagg Butler, Sayre, Pa. (Journal A. M. A., April 20, 1927), by means of the ordinary dress shield used by dressmakers in days gone by.

THE JOURNAL

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Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive The Journal should call for immediate notification of the editor, Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession, notes on removals, changes in address, births, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

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EDITORIAL

OUTSTANDING FEATURES OF THE TULSA MEETING

The Tulsa session promises to be unusually rich in high class attractions of every type. Among the notables to be present from outside the State are: Dr. Wm. D. Haggard, Nashville, ex-president, American Medical Association, a citizen, speaker of note and great ability. Dr. Haggard is Professor of Surgery, Vanderbilt; his subject, "Malignant Growths of the Colon and Rectum," (with lantern illustrations); Dr. Clifton F. McClintic, Detroit, Professor of Anatomy, Histology and Embryology, Detroit College of Medicine and Surgery, his subject, "The Clinical Aspects of the Transportation Mechanism of the Alimentary Tract;" Dr. Benj. F. Turner, Memphis, Professor of Neurology, University of Tennessee, College of Medicine, his subject, "Tired Nerves;" Dr. Richard A. Bolt, Professor of Pediatrics, University of California, Berkley, will appear on the Pediatric-Obstetric Section with "Preventive Obstetrics and Pediatrics;" Dr. Wm. F. Braasch, Mayo Foundation, Rochester, and Dr. John R. Caulk, St. Louis, will appear on the Section of Urology, their subject not yet announced. Dr. Braasch is President Minnesota State Medical Association, and Professor of Urology, University of Minnesota.

Others, whose names not yet submitted, will also appear.

A most interesting and instructive feature of the meeting, if possibly obtainable, will be the presentation of films on "Diagnosis and Treatment of Infections of the Hands," and, if the film is ready for release at the time, the subject of "Obstetrics." The first film has been shown under the auspicies of the University of Oklahoma, Extension Department, in a few Oklahoma cities. It met with universal approbation and enthusiasm.

The Tulsa meeting will also offer clinics at the various hospitals, entertainment of the ladies by the auxiliary, golf for all bugs of that calling, a dinner arranged for the Medical Reserve, to which all attending physicians are invited, many social features and very complete scientific programs. Every physician who can should set aside the dates May, 17, 18 and 19.

CLINICAL LABORATORY SERVICE

For a number of years members of the medical profession noted and protested against the tendency of commercialization of clinical laboratory work, that it had, or was falling into the hands of lay technicians and becoming the toy of persons with purely the commercial point of view and who had little training for this work, which, throughout, is purely a function of the skilled medical mind, and which must have, at all times, close scientific medical supervision if many pitfalls and dangers are to be avoided.

Committees from organizations of chemists, pathologists and bacteriologists,

and the Council on Medical Education and Hospitals, early in 1924, as a result of continued protest to these various organizations interested, met and adopted certain basic principles which underlie sound laboratory service, and agreed that the work should be conducted by the Council.

Complete lists of laboratories of the country were compiled. Preparation of a schedule of essentials for approved clinical laboratories was compiled and a questionnaire by which the facts could be secured as to each laboratory was also prepared. A very full response was received from laboratories of the country. The findings, including lists of laboratories which seemed to comply with the requirements was published in (Jour. A. M. A., April 3, 1926). The work was approved by the House of Delegates in 1926.

Strong committees were formed in every state or section. These committees composed laboratory experts representing, as equally as possible, the cooperating organizations interested, and hence the interest of the laboratory profession. Investigations are made in each locality by each committeeman, and independently of other committeemen of the same district. Three hundred and fourteen laboratories have reported and one hundred and fifty-one, after careful investigation have been placed upon the approved list and other applications are constantly being received. The Council lends all possible assistance to laboratories whereby they may become eligible for admission to the accepted list. Upon reporting, every laboratory is informed in regard to any deficiencies. The work has been purely constructive, and despite the seeming great difficulties much improvement is already noted. Laboratories formerly run by technicians and only nominally under ' medical directors," have come under the ownership and actual control of clinical pathologists of high professional standing and ripe experience. A number of laboratories under control of technicians have gone out of business, and there is an increased demand for pathologists to man the clinical laboratories of the country, the Director of the Mayo Foundation reporting that the salaries offered the pathological graduates of the Foundation are double those offered other graduates of the Foundation, and there is generally reported a more hopeful attitude on the part of clinical pathologists themselves.

It goes without saying that where clinical laboratories upon approved lists are available, they should be given preference by physicians. There is hardly an excuse for a laboratory offering to undertake the difficult role assumed to remain aloof from investigation and certificate of worthiness by the Council.

FILMS OFFERED THE OKLAHOMA PHYSICIANS

The Extension Department of the State University in charge of Paul Vogt, Dean, has presented, through F. W. Beaird, Director of Town and Country Service, one of the most interesting subjects ever enjoyed by our profession, the film on "Diagnosis and Treatment of Infections of the Hand," prepared under direction of the American College of Surgeons, was enthusiastically received by those fortunate enough to attend its presentation before medical societies at Norman, Enid, Oklahoma City, Tulsa, Muskogee, Ardmore and Shawnee. Everywhere unusual interest was evinced and the only regret was that there was not more of similar showings. At a pittance per capita, these films, covering many subject of interest in medicine and surgery will be offered the Oklahoma profession. It is proposed that they be shown in about twenty-five centers of the state, in such manner as to make them available to most all physicians, and at such low cost that it will not be noticed by any physician. If possible some of these films will be shown at the Tulsa meeting, in order that a first hand knowledge of their unusual worth may be attained by men attending that meeting. There is no semblance of advertising or "boosting" any particular system attached to this matter. There is no doubt but what once the film "Diagnosis and Treatment of Infections of the Hand" is seen by our physicians there will be universal desire to see all that it is proposed by the Extension Department as an offering to our profession.

Editorial Notes—Personal and General

DR. O. C. KLASS, Muskogee, was reported ill during March and early April.

DR. A. B. LEEDS, Chickasha, attended the meeting of the F.A.C.P. at New Orleans.

DR. S. E. MITCHELL, Muskogee, after a prolonged illness and recuperation at Hot Springs, is back on duty.

DR. C. T. CARAKER, Duncan, returned Sunday from a ten-days' clinical study in Washington, D. C., and New York City.

DR. and MRS. P. C. TAYLOR, Chelsea, attended the recent meeting of the American College of Physicians at New Orleans, and during the closing exercises the doctor was received in Fellowship in the College.

DR. W. H. LIVERMORE, Chickasha, has returned from attending the clinics at New Orleans. The trip was extended to include a pleasure outing to the Caribbean Islands.

DR. EUGENE RICE and Miss Mary Louise Alexander, both of Shawnee, were married at the home of the bride February 11th. They have just returned from a honeymoon spent at points on the Gulf Coast.

DR. E. E. CONNOR has recently moved to Erick, having bought a half interest in the New Erick Hospital, and becoming associated with Dr. G. H. Stagner who is chief surgeon and founder of the hospital.

TULSA COUNTY MEDICAL SOCIETY met at the New Morningside Hospital February 27th. Papers were read by Drs. D. M. MacDonald, James Rogers, D. O. Smith and W. J. Trainor. Luncheon was served by the physicians' wives.

DR. MORRIS LHEVINE, Tulsa, has been appointed counselor in Oklahoma for the Radiological Society of North America, according to an announcement made by E. C. Ernst of St. Louis, president-elect of the association.

MAYES COUNTY MEDICAL SOCIETY had an interesting meeting March 7th at the office of the secretary, Dr. Ivadell Rogers. After reading of the minutes of the previous meeting a history of cases was presented by Drs. Hillis and Rogers.

MORE THAN THIRTY-FIVE PHYSICIANS of Choctaw, Pushmataha and McCurtain counties were present at the Tri-County Medical County Society at Valliant, March 31st. Several prominent doctors of Oklahoma addressed the physicians of that district.

COMANCHE COUNTY MEDICAL SOCIETY held their semi-monthly meeting March 27th at the Doctors' and Dentists' building. The subject for discussion was "Blood Pressure and its Significance," presented by Drs. Barber, Knee and Meade of Lawton.

DR. LUCILE SPIRE BLACHLY of the State Health Department left March 29th to attend the Second Annual Public Health Conference at Chicago at the A.M.A. headquarters March 30-31, enroute on her way to Washington for the Fifth Annual Conference of State Directors of Bureaus of Child Hygiene April 2-4.

LeFLORE COUNTY MEDICAL SOCIETY met March 8th. A very interesting paper was read on "Methods of Early Diagnosis of Tuberculosis," by Dr. Wm. E. VanCleave of the Indian Tuberculosis Sanitorium, Talihina, discussed by Dr. J. B. Wear and the society.

THE RADIOLOGIC SOCIETY of North American will hold its 14th annual convention in Chicago, December 3-7. The Drake Hotel, Lake Shore Drive and North Michigan Avenue has been selected as headquarters. Reservations should be made through Dr. T. J. Ronayne, West Suburban Hospital, Chicago, or direct through the Drake Hotel.

GARFIELD COUNTY MEDICAL SOCIETY held its monthly meeting March 22nd, at the Oklahoma Institute for Feeble Minded. Dr. Griffin, superintendent of the state hospital at Norman, and members of his staff, presented a medical program following the dinner. Dr. S. N. Mayberry, president of the County association, presided at the meeting.

McCURTAIN COUNTY MEDICAL SOCIETY met in Idabel February 28th, at the office of the County Health Unit, with Dr. R. D. Williams, president; Dr. R. H. Sherrill, Broken Bow, secretary, with the majority of the physicians of the county present. The Society will meet again in April at the same place. Dr. Barker of Broken Bow will read a paper on "Diarrhea of Children."

POTTAWATOMIE COUNTY MEDICAL SOCIETY held its regular annual meeting in their club rooms January 12th, and elected the following officers: Drs. H. G. Campbell, president; Eugene Rice, R. C. Kaylor and T. G. Sanders, vice-presidents, respectively, and W. M. Gallaher, secretary and treasurer. The annual address was given by Dr. Leo Riley, Oklahoma City. His subject was "History of Medicine." A large number of visitors attended, among them being Dr. J. S. Fulton, Atoka, and Dr. Ellis Lamb, Clinton.

KANSAS CITY SOUTHWEST CLINICAL SOCIETY—In this issue appears the preliminary announcement of the annual Fall conference to be held in Kansas City, Mo., October 9-11. It is expected that the coming meeting will be more widely attended than any of the former successful meetings. A departure of interest to the profession of the Southwest is that the porgram for this meeting will consist mainly of symposia and clinical programs arranged especially for the general practitioner. All special subjects will be correlated with this idea in mind. In fact the entire program will approximate a practical postgraduate course in these problems of every day interest.

THE GRADY COUNTY MEDICAL SOCIETY met with the Stephens County Society March 27th at Duncan. The Grady County Society put on the program and the Stephens County Society furnished the luncheon. The program consisted of a case report of chronic constipation, by Dr. A. B. Leeds, Chickasha. An interesting lecture on some heart diseases, setting forth early symptoms of approaching heart disease, by Dr. A. B. Chase, Oklahoma City. Dr. Roy Emanuel, Chickasha, read an excellent paper entitled, "Internal Injuries of the Head." Dr. H. Coulter Todd, Oklahoma City, who was present, but not on the regular program, in response to

numerous requests for a talk, told us how to blow our nose as not to force infection into the antrums. Dr. Rebecca Mason, physician for O. C. W., Chickasha, told of her work in connection with the school. Dr. W. H. Livermore, Chickasha, made a good-fellowship talk.

THE OKLAHOMA COUNTY MEDICAL SOCIETY reported a record attendance at its regulary meeting March 24th at the Medical Arts building at which time the Extension Department of the State University showed the first release of a three-reel motion picture on "Infections of the Hand." This set of films will be shown to three or four groups over the state for the purpose of ascertaining if the profession would be interested in having the State University secure the full medical film library covering fifty-five different subjects. The total cost of the whole library, the Extension men advised, was $8,000.00 and the films on standard stock should last fully five years. Each society desiring the film could make use of the film as often and as long as desired. Each would be shown by a skilled operator furnished by the Extension Department. Should the physicians of the state desire the library the plan proposed was that they share the original cost of the library with the Extension Department. Among other films ready for use are Nursing, Technique, Hernia, Goitre, etc. Each physician viewing the film was asked to express his opinion of them to the Extension Department. One paper was read, "The Treatment of Pneumonia in Childhood and Infancy," by Dr. Clark Hall. Discussion was opened by Dr. Wm. Taylor.

LINCOLN COUNTY MEDICAL SOCIETY met at Chandler March 7th, and had a turkey dinner. After dinner was served Dr. Moorman, Oklahoma City, gave a practical demonstration of examining a clinical case, presented by Dr. A. M. Marshall, outlining the method and noting the findings in the case. Dr. McNiel was introduced. and by the aid of radiographs, talked on Differential Diagnoses in Pulmonary T. B. as compared to cases of other origin, simulating Pulmonary T. B., giving many valuable points and showing that in practically all cases it was necessary to make a picture to learn the correct findings. Dr. Antonio Young, Oklahoma City, discussed the Meningeal type of T. B., showing that in many cases children from two to four years old, who had been associated with a parent who has Pulmonary T. B., often developed tubercular meningitis, which develops very slowly and is hardly distinguishable from fever of low type until the fatal symptoms appear, and for which there is no known relief. Preventative treatment is the only hope, and it is wisdom to take the parent away from the children entirely. These cases often develop before the parent is known to have tuberculous infection, and it is discovered in the parent after the death of the child. He urges close observation in our examination, to obtain these facts, if present, and endeavor to convince the parent of the necessity of isolation from their children. Dr. Moorman then took up the subject of relief to advanced cases and by X-ray pictures, showing the results of pneumothorax in cases where there were no adhesion of the pleura and radical rib resection where pneumothorax could not be instituted, showing 35 per cent of cures and an additional 25 per cent greatly improved, the other 40 per cent were helped, but in this class is included those parents who will not conform to the treatment. This class of cases are in the advanced type and have had rest and sanatorium observation without results. Dr. Horace Reed, Oklahoma City, discussed the modus operandi of thoracoplasty, and that it is generally done in a two-stage operation, under local anesthesia, with the aid of gas in nervous patients.

DOCTOR JAMES R. CALLAWAY

Dr. James R. Callaway, pioneer physician, passed away at his late residence in Pauls Valley, March 10, 1928, after a brief illness. He was 73 years, 6 months and 18 days of age.

Dr. Callaway was born in Denton County, Texas, August 22, 1854. His preliminary education was obtained in common schools. He graduated from the Medical Department of Fort Worth University in April, 1897. He received his license to practice medicine in Oklahoma, in July, 1904.

Dr. Callaway is survived by his wife and five children. Funeral services were conducted by the Rev. R. A. Brigham of the First Christian church. Burial was made in Mount Olivet cemetery.

DOCTOR THOMAS H. HENDERSON

Dr. Thomas H. Henderson, 57 years of age, died in a Paris, Texas, sanitarium February 25, 1928. Dr. Henderson was a well known physician of Ft. Towson, having come here about eighteen years ago—living for a time in Hugo. About a year or so ago the doctor's health began to fail—dropsy and heart failure are said to have been his ailments. At times he would be better, but would soon grow worse again.

Dr. Henderson had never married and had no brother or sister living. A nephew came from Memphis to accompany the body home for interment.

DOCTOR R. H. GRASSHAM

Dr. R. H. Grassham was born in Kentucky April 28, 1868. His preliminary education was obtained in common schools. He was graduated from the Miami Medical College March 20, 1890, receiving his certificate to practice medicine March, 1908. Dr. Grassham was 60 years old at the time of his death, and had been a resident of Bryan county for 25 years.

Dr. Grassham is survived by a brother and two sisters. Funeral services were held March 27, conducted by Rev. R. A. Schell, pastor of the Christian church of Durant.

DOCTOR S. AUGUSTUS RICE

Dr. S. A. Rice, medical practitioner of Velma, passed away at his home February 23, 1928, advanced age causing his passing. Funeral services were conducted by Rev. Davis of the Christian church, and interment was in the Alma cemetery.

Dr. Rice was born in Arkansas October 8, 1856. He had been in active medical practice since 1890. Coming to Texas at an early day he practiced at Lebanon, Justin and Salina. Since 1898 he had been a resident of Indian Territory and the State of Oklahoma. Dr. Rice had been a resident of Stephens county for the past 12 years. He first came to Alma, and removed to Duncan in 1923.

The deceased is survived by his wife and one son.

DOCTOR A. T. DOBSON

Dr. A. T. Dobson, pioneer physician and surgeon, died at his home in Hobart March 27, of heart disease.

Dr. Dobson was born July 7, 1868, at Cape May, New Jersey. His early life was spent there, later moving with his parents to Philadelphia, Pa. While here he attended LaFayette College, where he began the study of medicine. Later he entered the University of Pennsylvania, completing his course in 1885. Dr. Dobson moved to Oklahoma at the opening of this country. In 1917, he moved to Rocky, practicing there nine months, and then coming to Hobart where he had remained since.

The deceased was a member of the Shrine and Knights Templar, and was past high priest of the Royal Arch Masons.

Dr. Dobson is survived by his widow and two children. Funeral services were held from the St. James Episcopal church, under auspices of the Masonic organization.

DOCTOR J. M. BOLGER

Dr. J. M. Bolger. 74 years old, a practicing physician for 42 years, and a resident of Poteau for more than 15 years, died at his home in Poteau February 23, 1928, following a brief illness. Dr. Bolger was born in Atlanta, Georgia, May 17, 1854. He was reared and educated in Columbia County Arkansas. He gradulated from the Louisville Medical College, Louisville, Kentucky, February 25, 1886. He was an Honorary member of the LeFlore County Medical Society. Dr. Bolger was a quiet, unassuming character and made many friends, both personal and professional, during his 15 years in Poteau. Dr. Bolger is survived by his wife, Mrs. Kate Bolger, three sons and three daughters. Burial was made in the Oakland Cemetery, Poteau. Oklahoma.

UROLOGY and SYPHILOLOGY

Edited by Rex Bolend, B.S., M.D.
1010 Medical Arts Building, Oklahoma City.

Many a urologic case should first be studied by a neurologist.

—o—

Keep a jealous eye of suspicion on the sterility of your lubricants.

—o—

It is not how many glasses you use, but how much judgment you use.

—o—

The bismuth or X-ray catheter is the type best adapted for an indwelling ureteral catheter.

—o—

Silver nitrate solutions develop nitric acid on aging; keep them fresh by making only small quantities at a time.

—o—

A configurate infiltration persisting for weeks without breaking down is not syphilitis in origin; think of erythema perstans.

—o—

For draining the pelvis of the kidney by means of an indwelling catheter, use a catheter so large as to cause a slight initial discomfort.

—o—

There is no such animal as a urologist without a cystoscope; and there should be no such thing as a urologist without a proctoscope.

—o—

Metallic bismuth suspension does not remain sterile. Before using any of it for intramuscular injection the vial should be heated in the sterilizer for ten minutes, or else one runs the risk of abscess formation.

—o—

If you are not today able to use one reasonably serviceable and dependable drug that was unknown to you a year ago, it is suggestive at least that you are not keeping up with medical progress as well as you might.

—o—

The following extracts from the American Medical Journal are interesting to all urologists and sometimes are overlooked.

Congenital Syphilis and Tests of Hepatic Function—In thirteen children, aged from 1½ to 13 months, with congenital syphilis, Salomon and Schoenthal noted the blood bilirubin curve before and after energetic treatment with neoarsphenamine, for the purpose of determining liver function. They failed to note any rise. This was taken to mean that liver function was normal; hence the treatment is justified.

—o—

Wassermann Reaction in Pregnant Women—Dodds reports the results of the Wassermann reaction obtained in 2,000 consecutive pregnant women. A report other than negative was obtained in 130. Attention is drawn again to the frequent absence of a history or of clinical manifestations of syphilis in the pregnant woman; to the high percentage of stillbirths and deaths under one year of age from syphilis, and to the preventable character of this condition. It is shown that the first evidence of syphilis, and in some cases the only evidence, was a positive Wasserman reaction.

—o—

New Clinical Urinary Indicator—Markwalder recommends a mixture of methyl red and methyl blue (equal parts of each in a 0.5: 1,000 alcoholic

solution) for testing the reaction of urine. In the presence of acid this solution turns blue; in the presence of alkali green. In a dark bottle, it keeps well. It is adapted to quantitative examination.

—o—

Determination of Urinary Acidity—Criticisms of Neubauer's indicator on theoretic grounds are answered. It remains, however, in Strauss' opinion, an inconvenient method, and he suggests, instead, the use of methyl red, which gives a red color to a highly acid urine.

—o—

Malaria Therapy of Gonorrhoea — Scherber (Wiener. Med. Woch., No. 44, for 1927) states that for some time, in connection with malaria and malaria in other diseases, it has been found that the febrile process of malaria is capable of exciting a favorable influence on gonorrhoea. The literature of the subject gives conflicting reports according to the greater or less enthusiasm of the relators.

The author's experience has been based on fifteen male cases and twenty eight female cases treated by injections of malarial material supplied in each instance from the medical clinic of the Rudolfspital in Vienna. The majority of the cases developed the tertian type, with six to twelve chills. An analysis of the results enabled the author to say that the malaria therapy did not effect an influence on the gonorrhoeal discharge in every instance, nor did it affect a resorptive reaction on the infiltrations. There was no apparent direct action on the gonococci. However, on account of the small number of cases in the series the author felt there was a need for repeating the study before expressing any definite judgment on the effect of malarial pyrexia on gonorrhoea.

—o—

Anti-Chancroid Vaccine in Paresis—Sicard, Haguenau and Wallich (Presse Medicale, September 14, 1927) working with intravenous injections of the anti-chancroid vaccine of Nicolle provoked an attack of fever after every injection. The vaccine produced no sentitization. The dose is determined by giving progressively increasing amounts. Anti-syphilitic therapy was also given at the same time. The neuropathic, psychic and general condition of the two patients was notably improved after the tenth injection, but the spinal fluid Wassermann remained positive. The authors believe that it is true that malarial parasites exert no specific action on the treponemata, that the anti-chancroid vaccine of Nicolle is to be preferred to the malaria treatment.

Since the febrile process seems to be the thing that causes the specific or non-specific protein dissemination it occurs to the reviewer to wonder why use a malarial plasmodia or other organisms in infecting an individual when the pyrexia can be obtained with any number of other things which can be as readily controlled and just as much elevation of temperature obtained.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
726 Mayo Bldg., Tulsa

Malignant Tumors of the Antrum of Highmore: End-Results of Treatments. New, G. B.: Arch. Otolaryngol., 1926, iv, 201.

The combination of cautery and radium, as employed since 1917 in the Mayo Clinic for the treatment of malignant tumous of the antrum of Highmore, has eliminated the operative deaths usually occurring in this disease and has resulted in a higher percentage of cures than previous operative measures.

During the eight-year period from 1917 to 1924, inclusive, 168 patients with malignant tumors of the antrum were examined. One hundred and twenty-nine had primary tumors of the antrum and thirty-nine had tumors of the antrum secondary to tumors of the upper jaw. This division is not absolute as it is sometimes difficult to determine the origin of the tumor.

In the selection of patients for treatment, the usual factors were considered, namely, the age of the patient, the extent of the tumor, the previous treatment, and the duration of the disease. Ninety-seven of the patients (seventy with primary tumors and twenty-seven with secondary tumors) were treated by cautery and radium. More extensive tumors can be treated by this method than by surgery alone.

Diathermy has almost entirely replaced the use of soldering irons because it requires no protection for the surrounding tissues and may be employed with greater facility.

The end-results of the treatment of malignant tumors of the antrum with the cautery and radium have confirmed the conclusions made in a report published in 1920. There were no operative deaths among the ninety-seven patients treated. Of the seventy patients with primary tumors, nine lost the eye on the involved side. Of the twenty-seven patients with secondary tumors, two lost an eye. Of the seventy patients with primary malignant tumors of the antrum, twenty-one (30 per cent) were living from a year and a quarter to eight years after the treatment. Of the twenty-seven patients with secondary malignant tumors of the antrum, fourteen (51.8 per cent) were living from a year and a quarter to eight years later. Of the ninety-seven patients with primary and secondary malignant tumors of the antrum, thirty-five (36 per cent) were living from a year and a quarter to eight years later.

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Some Reflections on the Maxillary Sinus. Skillern, R. H.: Ann. Otol., Rhinol & Laryngol., 1926, xxxv, 717.

In this article Skillern presents his objections to the generally accepted theory regarding the cause of death following needle puncture of the maxillary sinus and the reliability of the returning lavage fluid as a criterion of the pathological condition present.

Death following needle puncture of the maxillary sinus is almost universally attributed to cerebral air embolism, but Skillern believes the cause is shock due possibly to disturbance of the vagus by irritation of the second branch of the trigeminal nerve. In support of his conclusion he cites the fact that at autopsy no evidence of embolism has been found. In accordance with his theory he recommends that when resistance is offered to the needle, a thorough investigation be made and a large opening formed into the antrum to allow the free escape of injected fluid.

With regard to the appearance of the returning fluid as a criterion of the pathological condition of the sinus mucosa it is practically always conceded that if the sinus washing return clear, no disease is present. Skillern states, however, that he has found maxillary sinus infection in a con-

siderable number of cases in which the returned lavage fluid was negative. Moreover, he has noted that when a black rubber pus basin is used the return fluid is of a light straw color, whereas when a white basin is used the fluid is clear and transparent.

—o—

Radium in Polypoid Ethmoiditis: Report of Cases. McCullagh, S., and Robinson, G. A.: Arch. Otolaryngol., 1926, iv, 215.

Among the diseases most resistant to treatment which are encountered by the rhinologist is hyperplastic ethmoiditis with polypoid change. In this condition the authors perform a radical operation and then apply 50 mgm. of radium for one hour or 100 mgm. for two hours. If necessary, the irradiation is repeated after from ten to fourteen days.

By this treatment the amount of polypoid tissue is decreased, the interval before the recurrence of polypi is lengthened, and associated conditions such as asthma are relieved.

While the end-results are not yet known, radium is the most effective agent so far found for the control of the disease.

The article contains sixteen case reports.

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Otosclerosis: Drury, D. W.: Ann. Otol., Rhinol. & Laryngol, 1926, xxxv, 651.

The author believes that otosclerosis can be excited in a person predisposed to it by many and widely divergent factors, the essential cause being possibly a clinical one affecting the nutritive stability of developing and fully developed bone and cartilage. In a certain percentage of cases the several endocrine glands are responsible through their influence or normal metabolism. In the presence of an endocrine or non-endocrine pathological condition, a constitutional tendency or hereditary influence is also a factor. Drury believes that the endocrine influence is an indirect and non-specific one, but that in cases without firm ankylosis of the footplate of the stapes or other irreversible organic change, a response to proper glandular treatment may be expected with reasonable confidence.

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ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
717 North Robinson St., Oklahoma City

Kidner, F. C., and Muro, F.: Comparative Results of Operative and Non-Operative Methods of Treatment of Tuberculosis of the Spine in Children. J. Bone and Joint Surg., 1927, ix, 649.

Under condition as nearly ideal as possible, fourteen children under ten years of age, with tuberculosis of the dorsal or lumbar vertebrae, were chosen for a prolonged comparative test of the operative and non-operative methods of treatment. So far as possible, they were divided into pairs according to their age, the stage of the disease, and their general physical condition. From each pair, one child was selected for operation and one for prolonged frame treatment. In the surgically treated cases, the Higgs type of fusion was done. In both groups of cases the same physical and X-ray examinations were made and the same after-treatment was given. From time to time the children who were clinically free from symptoms, whether operated upon or not, were allowed to get up wearing a back brace, in order to test the solidity of the healing. Such tests always led to a recurrence of symptoms in a shorter or longer period unless the roentgengrams showed a continuous firm bony bridge uniting the diseased vertebrae and disappearance of all signs of rarefaction between them.

Thirteen of the children are well and physically active. Eleven have small unimportant kyphoses. The only abscess that developed was present when the child was first seen.

One child who was operated upon has a marked kyhos due to failure of complete fusion of the laminae which necessitated a second operation. All the children except these two have flexible useful spines, but the authors believe that the flexibility is greater in those who were not operated upon.

The following conclusions are drawn:

1. The cure of tuberculosis of the spine depends principally on long-continued rest without weight bearing.
2. Cases in which fusion operation have been done requires practically as long and careful after-treatment as those without operation.
3. When cured, patients not operated upon have more flexible spines that those treated surgically.
4. The possible shortening of convalescence does not justify the risk incident to operation.

The authors' cases will be kept under observation and a final report regarding them will be made later.

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Jefferson, G.: Fracture of the First Cervical Vertebrae. Brit. M. J., 1927, ii, 153.

The author reports three cases of fracture of the posterior arch of the atlas, in one of which the odontoid process was broken in addition. He reviews also 62 cases reported in the literature, and in a table gives the nature of the accident, the clinical signs of cord or nerve injury, the nantomical diagnosis, and the results.

The chief symptoms of fracture of the first cervical vertebrae are pain and rigidity of the neck.

With regard to the mechanism of the fracture, the author reminds us that the lateral masses of the atlas are triangulae with their wide base outward and that the upper and lower articular facets correspond. Therefore, when force is applied directly downward from the top of the head, a tension fracture may occur and the atlas ring gives away.

The treatment of fracture of the first cervical vertebra is immobilzation in plaster of Paris.

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Boorstein, S. W.: Osteochomdritis of the Spine: With A Report of Two Cases: J. Bone and Joint Surg., 1927, ix, 629.

Vertebral epiphysitis is characterized by deformity of the spine in the form of a knuckle to a generalized kyphosis or scoliosis with little or no pain.

The roentgengrams usually show that only one verterbra is affected. This vertebra assumes a cumeiform shape. There is no involvment of the disks above or below it. The cartilage is usually thicker.

The etiology of the condition, as in Legg-Calves' disease and Osgood-Schlatter's diseases is unknown.

In the treatment, immobilization in a plaster of Paris jacket or brace is indicated. The source of the infection should be sought. In order that the

clinical syndrome of osteochondritis of the spine may be definitely established, every case of spinal deformity suggesting the condition should be studied.

The authors report two cases in detail.

TUBERCULOSIS

Edited by L. J. Moorman, M.D.
912 Medical Arts Bldg., Oklahoma City

A Statistical Study of the Relationship Between Pregnancy and Tuberculosis.—Alice M. Hill, Amer. Review Tuberculosis, Feb., 1928.

This study includes 349 women whose pregnancies occurred during or immediately preceding pulmonary tuberculosis and 160 women who had never been pregnant or whose pregnancies were in no sense associated with tuberculosis, and who serve as a control group.

The earlier the 349 mothers of the study were diagnosed with respect to their pregnancy, the less hazardous the latter was for them. Less than one in 12 of the women diagnosed before gestation was dead a year after its termination; one in five of the diagnosed during pregnancy was dead, and one in three of those diagnosed after delivery.

The highest mortality among the tuberculous women was suffered by those pregnant for the first time, the danger of primiparity among the tuberculous being similar to that among the mothers in general.

In the belief that a better picture of a relation between pregnancy and tuberculosis might be obtained if histories were to be taken with both these conditions in mind concurrently with the progress of the case, a new plan of research has been evolved in which it is hoped a considerable number of physicians will cooperate. The scheme is for each physician interested to fill out, as fully as possible, a uniform record form for every tuberculous married woman coming under his care, entering on the form as time goes on any change in her condition, and when the case has been closed for the physician to send the complete record to the National Tuberculosis Association.

Innate Resistance to Tuberculosis.—Chas. T. Ryder, Amer. Review of Tuberculosis, Feb., 1928.

The author emphasizes innate immunity apart from hygienic conditions, the most practically important advantageous factor now known to us in our conflict with tuberculosis.

In the case of endemic diseases or "universal viruses," to which practically all persons are exposed, first infection usually takes place in the first years of life. The majority combat these first infections successfully because of their innate resistance. A minority, whose resistance is naturally low, or is not yet fully developed, or is overwhelmed, succumb and are eliminated, accounting for the high death rate in the first years of life from all these diseases. Between early childhood and adolescence, the death rate from all diseases is remarkably low, though to the best of our knowledge most first infections with endemic diseases occur in this period.

A race long exposed to a disease has a much higher innate resistance to it than a race newly exposed.

In tuberculosis first infection in childhood is usually very well resisted. It produces no illness as a rule and is attended by a very low death rate. This resistance on first encounter with the tubercle bacillus must be an inherited trait. After this period the death rate rises rapidly and maintains a high level throughout the rest of life.

Concerning the Tuberculous Nature of Pleurisy From the Life Insurance Standpoint.—H. B. Anderson, Amer. Review of Tuberculosis, Feb., 1928.

With the exception of pleurisy the direct result of trauma, the weight of authority is strongly in favor of regarding all pleurisies as secondary. Pleurisy following exposure and chill is now generally regarded as secondary to another infection, usually tuberculosis.

Graves in 1842 stated that "it is a law of pathology that if a pleurisy appears on one side of the chest and sometimes afterward shows itself in the other, it in all likelihood is dependent upon the tubercles. In 1886 Kelach and Vaillard, in an analysis of 113 cases of acute pleurisy, found 82 per cent to be tuberculous and they concluded that "ordinary pleurisy is only a manifestation of local tuberculosis."

Bray believes "that for insurance purposes all idiopathis pleurisies should be considered as tuberculous."

Clinical experience, as well as statistical data, bear out the attitude of insurance companies that the danger period in ordinary pleurisy is in the years immediately following the attack, and during this period, at least for the first year or two, the lives are either uninsurable, or accepted only after rigid selection and with provision for a high mortality experience.

In the favorable cases there is gradually decreasing risk, so that after five years, those, and especially with applicants over 30 years of age, whose general condition, family history, build, weight, habits and occupation are satisfactory, are accepted at standard rates. However, it should always be borne in mind, especially in applicants with a family history of tuberculosis, with poorly formed chests and if the underweight is greater than before the attack, if the tendency is further decreased, or if the weight falls below the family tendency, that the failure to regain or increase in weight may be due to the persistance of a clinically latent, but by no means negligible systemic tuberculosis.

One cannot combat too strongly a tendency to overlook the significance of an attack of dry pleurisy because it is of brief duration. It is the nature of the underlying cause, not the length of the attack, which is most significant, and one has frequently seen a case lasting only two or three days, not confining the patient to bed, the precursor of pulmonary tuberculosis.

Electrocardiographic Studies in Pulmonary Tuberculosis. — Saling Simon and Felix Baum, Amer. Review of Tuberculosis, Feb., 1928.

These experiments showed the average value in height of the "T" wave to be lower than that given by Lewis in his chart of 52 normal individuals, which would indicate that there exists in tuberculous individuals a weakened heart muscle.

Collapse treatment does not always influence the electrocardiographic picture.

FOR THE TREATMENT OF PNEUMONIA

The vaccine treatment of pneumonia has not given very satisfactory results. With the purpose of obviating the chief difficulty in the vaccine therapy of this disease, namely tardiness of action, Parke, Davis & Co. have brought out a new antigen, one that represents the vaccine principle but acts much more rapidly. It is called Pneumococcus Immunogen.

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